

U.S. ARMY SERGEANTS MAJOR ACADEMY (BSNCOC)

W116

JUN 99

INTELLIGENCE PREPARATION OF THE BATTLEFIELD

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WAR FIGHTERS



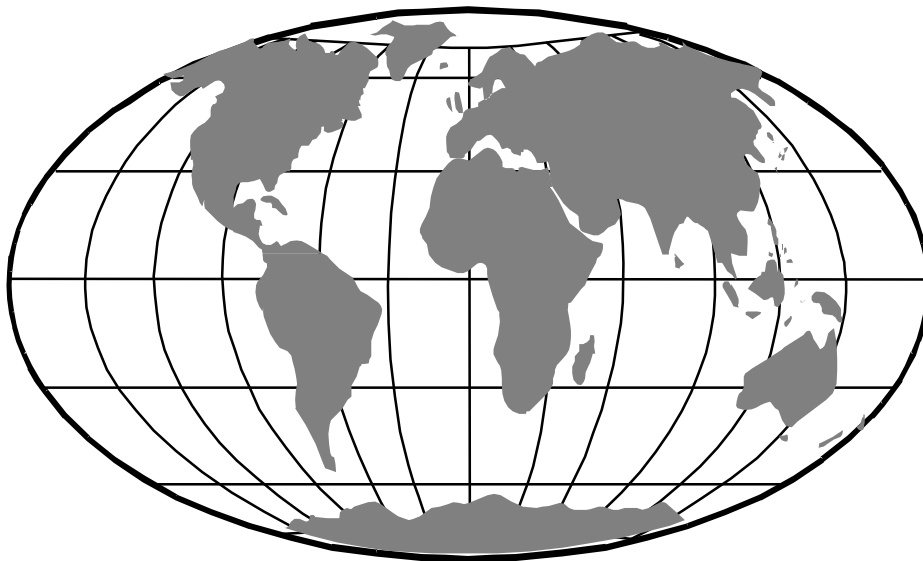
Sergeant Major



Master Sergeant



Sergeant First Class



Staff Sergeant

OF THE 21ST CENTURY

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TSP Number/ Title	W116 Intelligence Preparation of the Battlefield
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Effective Date	Jun 99
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Supersedes TSP	This TSP supersedes W116-RC, Intelligence Preparation of the Battlefield, May 1996.
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TSP User	The following course uses this TSP: Battle Staff NCO Course.
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Proponent	The proponent for this TSP is the U.S. Army Sergeants Major Academy.
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Comments and Recommen- dations	Send comments and recommendations on DA Form 2028 (Recommended Changes to Publications and Blanks Forms) directly to: ATTN ATSS DCR CMDT USASMA BLDG 11291 BIGGS FLD FORT BLISS TX 79918-8002
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Foreign Disclosure Restrictions	The materials contained in this lesson have been reviewed by the course developers in coordination with the USASMA foreign disclosure authority. This course is releasable to students from all requesting foreign countries without restrictions.
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**This TSP
Contains**

The following table list the material included in this TSP:

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**Gender
Disclaimer**

Unless this publication states otherwise, the masculine nouns and pronouns do not refer exclusively to men.

SECTION I ADMINISTRATIVE DATA**Task(s)
Trained**

This lesson trains the tasks listed in the following table:

Task Number:	None
Task Title:	Demonstrate how Intelligence Preparation of the Battlefield (IPB) supports military operations.
Conditions:	In a self-study environment using the material contained in this lesson.
Standard:	In accordance with FM 34-3, FM 34-130, FM 100-60, and FM 101-5.

**Task(s)
Reinforced**

This lesson reinforces the task(s) listed in the following table:

Task Number	Task Title
301-336-2051	Draft an Intelligence Estimate.
301-336-3005	Prepare an Intelligence Collection Plan.
301-336-3103	Prepare an Intelligence Annex to the Operations Order.

**Prerequisite
Lessons**

W115, Introduction to Intelligence, March 1999

Clearance and Access There is no security clearance or access requirement for this lesson.

Copyright Statement No copyrighted material was reproduced for use in this lesson.

References The following table lists the reference(s) for this lesson:

Number	Title	Date	Para No.	Additional Information
FM 34-3	Intelligence Analysis	Mar 90	N/A	N/A
FM 34-130	Intelligence Preparation of the Battlefield	Jul 94	N/A	N/A

Equipment Required None

Materials Required None

Safety Requirements None

Risk Assessment Level Low

Environmental Considerations None

Lesson The following individuals have reviewed and approved this lesson for
Approval publication and incorporation into the Battle Staff NCO Course:

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SECTION II INTRODUCTION

Terminal Learning Objective

At the completion of this lesson, you will-

Action:	Demonstrate how Intelligence Preparation of the Battlefield (IPB) supports military operations.
Conditions:	In a self-study environment using the material contained in this lesson.
Standard:	In accordance with FM 34-3, FM 34-130, FM 100-60, and FM 101-5.

Evaluation

At the end of the intelligence block of instruction in Phase II, you will take a written, objective examination that will test learning objectives from this and several other lessons. You must correctly answer at least 70 percent of the questions to receive a "GO." A "GO" is a requirement for graduation.

Instructional Lead-in

In lesson W115, Introduction to Intelligence Operations, you read and studied about the intelligence system. In this lesson you will read and study about the Intelligence Preparation of the Battlefield (IPB). IPB is a tool available to the S-2 and other staff elements in support of the intelligence effort. You will learn how to analyze aspects of the terrain, weather, and the threat to determine their effects on military operations.

SECTION III PRESENTATION

ELO 1

Action:	Describe the four steps of the IPB process.
Conditions:	In a self-study environment using the material contained in this lesson.
Standard:	In accordance with FM 34-130.

Learning Step/Activity (LS/A) 1, ELO 1, The Four Steps of IPB

IPB is a systematic, continuous process of analyzing the threat and environment in a specific geographic area to support staff estimates and military decision-making process. Applying the IPB process helps the commander selectively apply and maximize his combat power at critical points in time and space on the battlefield.

LS/A 1, ELO 1, IPB is a continuous process which consists of four steps which you perform
The Four Steps each time you conduct IPB:
of IPB,
continued

- Define the battlefield environment.
- Describe the battlefield's effects.
- Evaluate the threat.
- Determine threat courses of action (COAs).

You conduct IPB prior to and during the command's initial planning for an operation, but you also continue to perform IPB during the conduct of the operation.

IPB Step 1,
Define the
Battlefield
Environment

In step 1, you perform the following actions:

- Identify significant characteristics of the environment.
 - Identify the limits of the command's Area of Operations (AO) and battle space.
 - Establish the limits of the Area of Interest (AI).
 - Identify the amount of detail required and feasible within the time available for IPB.
 - Evaluate existing data base and identify intelligence gaps.
 - Collect the material and intelligence required to conduct the remainder of IPB.
-

Identify
Characteristics
of the
Environment

To focus the remainder of the IPB process, you identify characteristics of the battlefield which require in-depth evaluation of their effects on friendly and threat operations, such as terrain, weather, logistical infrastructure, and demographics. Generally, you would analyze these in more detail for areas within the command's AO and battle space than for other areas in the AI.

Area of
Operations
(AO)

The AO is the geographical area assigned to a commander where he has the responsibility and authority to conduct military operations. Generally, because this is the area where the command will conduct its operations, the evaluation of the battlefield's effects will be more thorough and detailed within the AO than within the Area of Interest. Identify the limits of the AO in order to provide the focus you need. Normally the limits of the AO are the boundaries specified in the OPORD or OPLAN from higher headquarters.

LS/A 1, ELO 1, The area of interest is the geographical area from which you need information and intelligence to permit planning or successful conduct of the command's operation. Because the commander and his staff need time to process information and to plan and synchronize operations, the AI is usually larger than the AO.

Area of Interest (AI)

Base the limits of the AI on:

- The ability of the threat to project power or move forces into the AO.
 - The geographical locations of other activities or characteristics of the environment which might affect the commander's decisions or COAs.
 - Any anticipated future or "be prepared" or "on order" missions identified during mission analysis.
 - Changes in the command's battle space as a result of maneuver.
-

Detail Required

Time may not always allow you to conduct each step of the IPB process in detail. To overcome the time limitations, you must focus on the parts of IPB that are most important to the commander in planning and executing his mission. Identifying the amount of detail required avoids time wasted on developing more detail than is necessary.

Identify Intelligence Gaps

Not all the intelligence and information required to evaluate battlefield characteristics and threat forces will be in the existing data bases. Identifying and prioritizing intelligence gaps early allows you to initiate action to collect the intelligence required to fill them. If collection is not possible or practical for some gaps, formulate reasonable assumptions to fill them.

Collect Required Intelligence

The last major consideration in defining the battlefield environment is the collection of required intelligence and materials. Initiate collection or requests for intelligence to fill intelligence gaps to the level of detail required to conduct IPB. Continuously update the IPB products as you receive additional information.

IPB Step 2, Describe the Battlefield's Effects

Step 2 evaluates the effects of the environment with which both sides must contend. The S-2 identifies the limitations and opportunities the environment offers on the potential operations of friendly and threat forces. This evaluation focuses on the general capabilities of each force until COAs develop in later steps of the IPB process.

LS/A 1, ELO 1, The considerations of step 2 are:

IPB Step 2,

Describe the
Battlefield's
Effects,
continued

- Analyze the battlefield environment:
 - ⇒ Terrain analysis.
 - ⇒ Weather analysis.
 - ⇒ Analysis of other characteristics of the battlefield.
 - Describe the battlefield's effects on threat and friendly capabilities and broad COAs.
-

Terrain
Analysis

You get the best terrain analysis by reconnaissance of the AO and AI. The engineer detachments that support divisions, corps, and echelons above corps (EAC) usually conduct the major portion of the terrain analysis, combining extensive data base information with the results of reconnaissance. If engineer terrain support is not available, evaluate the terrain through a map analysis supplemented by reconnaissance.

You should express the results of evaluating the terrain's effects by identifying areas of the battlefield that favor, disfavor, or do not effect each broad COA. Examples of conclusions about the terrain that help you make evaluations of the terrain's effects are identification of the places best suited for use as:

- Engagement areas.
- Battle positions.
- Infiltration lanes.
- Avenues of approach.
- Specific system or asset locations.

You reach conclusions about the effects of terrain through two sub-steps:

- Analyze the military aspects of the terrain.
- Evaluate the terrain's effects on military operations.

Analysis of the military aspects of terrain includes the following factors (OCOKA):

- Observation and fields of fire.
 - Concealment and cover.
 - Obstacles.
 - Key terrain.
 - Avenues of approach.
-

LS/A 1, ELO 1, Terrain Analysis, continued	<p>Consider all these factors when analyzing terrain, but always focus on the one most relevant to the specific situation at hand and the needs of the commander. Evaluate them in any order that best supports your analysis.</p> <p>Remember that the terrain analysis is not the end product of the IPB process. Rather, it is the means to determine which friendly COAs can best exploit the opportunities the terrain provides and how the terrain affects the threat's available COAs.</p>
Observation and Fields of Fire	<p>Observation is the ability to see the threat either visually or through the use of surveillance devices. Factors that limit or deny observation include cover and concealment.</p> <p>A field of fire is the area that a weapon or group of weapons may effectively cover with fire from a given position. Terrain that offers cover limits fields of fire.</p>
Concealment and Cover	<p>Concealment is protection from observation, such as woods, underbrush, snowdrifts, tall grass, and cultivated vegetation.</p> <p>Cover is protection from effects of direct and indirect fires, provided by ditches, caves, river banks, folds in the ground, shell craters, buildings, walls, and embankments.</p>
Obstacles	<p>Obstacles are any natural or manmade terrain features that stop, impede, or divert military movement. Some examples of obstacles to ground mobility are buildings, steep slopes, rivers, lakes, forests, deserts, swamps, jungles, cities, minefields, trenches, and military wire obstacles.</p> <p>Obstacles to air mobility include features that exceed the aircraft's service ceiling, restrict nap-of-earth (NOE) flight or that force the aircraft to employ a particular flight profile. Examples are tall (greater than 75 feet) trees, towers, buildings, rapidly rising terrain features, mountains, and smoke or other obscurants.</p>

LS/A 1, ELO 1, Analysis of the battlefield's effect on mobility results in classification of areas as UNRESTRICTED, RESTRICTED, and SEVERELY RESTRICTED. These classifications, their effects on mobility, and method of depiction on overlays are shown in this table:

Obstacles,
continued

Classification	Effects on Mobility	Depiction
UNRESTRICTED	<ul style="list-style-type: none"> Does not restrict mobility. Allows wide maneuver and unlimited travel supported by well developed road networks. 	None
RESTRICTED	<ul style="list-style-type: none"> Little effort needed to enhance mobility. Units may have difficulty moving at preferred speeds, moving in combat formations, or transitioning from one formation to another. Slows movement by requiring zig-zagging or frequent detours. 	Diagonal Lines
SEVERELY RESTRICTED	<ul style="list-style-type: none"> Severely hinders or slows movement in combat formations unless some efforts is made to enhance mobility. Requires mobility enhancement efforts such as: <ul style="list-style-type: none"> ⇒ Committing engineer assets. ⇒ Moving in columns instead of line formations. ⇒ Moving at speeds much lower than those preferred. 	Cross-hatched diagonal lines

Key Terrain

Key Terrain is any locality or area the seizure, retention, or control of which affords a marked advantage to either combatant. An example of key terrain, although situation dependent, is a bridge over an unfordable river which gives access to the opposite shore without requiring an assault crossing. Another example is a level clearing in rough terrain which is the only accessible landing field for air mobile operations. Key terrain is often selected for use as a battle position or objective.

A common technique is to depict key terrain on overlays and sketches with a large “K” within a circle or curve that encloses and follows the contour of the designated terrain. On transparent overlays use a color, such as purple.

LS/A 1, ELO 1, Avenues of Approach (AAs)	<p>An avenue of approach is an air or ground route of an attacking force of a given size leading to its objective or to key terrain in its path.</p> <p>The identification of AAs is important because all courses of action (COAs) which involve maneuver depend upon available AAs. During offensive operations, the evaluation of AAs lead to a recommendation on the best AAs to the command's objective and identification of avenues available to the threat for withdrawal or the movement of reserves. During the defense, you want to identify AAs that support the threat's offensive capabilities and avenues that support the movement and commitment of friendly reserves.</p>
Modified Combined Obstacle Overlay (MCOO)	<p>Once you have analyzed the military aspects of the terrain, you must relate the analysis to the terrain's effects on the broad COAs available to threat and friendly forces. A common and effective technique for depicting and disseminating the results of the terrain analysis is the use of a modified combined obstacle overlay (MCOO).</p> <p>NOTE: You will receive further information on how to put together a MCOO during Phase II of this course.</p>
Weather Analysis	<p>USAF weather teams at division, corps, and EAC work together with engineer teams during much of the analysis process. The weather team analyzes the weather's direct effects and its effects on terrain. The team integrates climatic, forecast, and current weather data with terrain analysis.</p> <p>You use two steps to accomplish weather analysis:</p> <ul style="list-style-type: none">• Analyze the military aspects of weather.• Evaluate the weather's effects on military operations. <p>The military aspects of weather are:</p> <ul style="list-style-type: none">• Visibility.• Winds.• Precipitation.• Cloud cover.• Temperature and humidity.

LS/A 1, ELO 1, Weather Analysis, continued	<p>The weather has both direct and indirect effects on military operations. Examples of indirect effects are:</p> <ul style="list-style-type: none"> • Temperature inversions might cause some battle positions to be more at risk to the effects of chemical warfare than others due to their altitude. • Local conditions of visibility, such as fog, might make some potential engagement areas more attractive than others. • Hot, dry weather might force a unit to consider water sources as key terrain. <p>All of these conditions would significantly affect the selection of defensive positions even though their effects are indirect. You must also evaluate the weather's direct effects on personnel, equipment, and operations.</p>
IPB Step 3, Evaluate the Threat	<p>Step 3 of the IPB process is to evaluate the threat. You determine threat force capabilities and the doctrinal principles and tactics, techniques, and procedures (TTP) threat forces prefer to employ.</p> <p>The desired end effect of step 3 is to know the enemy. You need to know how threat forces normally execute operations and how they have reacted to similar situations in the past. You need to know what the enemy is capable of, given the current situation.</p> <p>The evaluation of the threat should include:</p> <ul style="list-style-type: none"> • Standard graphic control measures, such as boundaries. • A description of typical tasks for subordinate units. • An evaluation of how well trained the threat force is on the task. • Employment considerations. • A discussion of typical contingencies, sequels, failure options, and wildcard variations. • An evaluation of the threat's strengths, weaknesses, and vulnerabilities, including an evaluation of typical High Value Targets (HVTs).
Update or Create Threat Models	<p>Threat models depict how threat forces prefer to conduct operations under ideal conditions. They base this on their normal or "doctrinal" organization, equipment, doctrine, and TTP. Threat models result from a detailed study of the threat force. Ideally, you construct threat models prior to deployment, but even after deployment you continue to evaluate the threat and update the threat model.</p>

LS/A 1, ELO 1, The threat model consists of three parts:

Update or
Create Threat
Models,
continued

- Doctrinal templates.
 - Description of preferred tactics and options.
 - Identification of type HVTs.
-

Doctrinal
Templates

Doctrinal templates illustrate the deployment pattern and disposition preferred by the threat's normal tactics when not constrained by the effects of the battlefield environment. They are usually scaled graphic depictions of threat dispositions for a particular type of standard operation, such as a battalion movement to contact, an insurgent ambush, or a terrorist kidnapping.

Doctrinal templates can also portray the threat's normal organization for combat, typical supporting elements available from higher commands, frontages, depths, boundaries, engagements areas, objectives depths, and other control measures. Whenever possible, convert these patterns into graphic representations such as overlays or sketches.

Description of
Tactics and
Options

The threat model includes a description of the threat's preferred tactics. It addresses the operations of the major units or elements portrayed on the template and the activities of the battlefield operating systems (BOS). It also contains a listing or description of the options available to the threat should the operation fail (branches), or subsequent operations if it succeeds (sequels).

The description should address typical timelines and phases of the operation (maneuver and support), points where units transition from one formation to another, and how each BOS contributes to the operation's success. Describe the actions of the supporting BOS in enough detail to allow the later identification of HVTs and high payoff targets (HPTs). Since the target's value usually varies with its role in each phase of the operation, ensure that you examine each phase separately.

Like the template itself, you develop the description of the threat's tactics and options from an evaluation of his doctrine and past or current operations. If the data base reveals any decision criteria that cause the threat to prefer one option over another, include that in the description. This information will aid in wargaming threat and friendly COAs, targeting, and deception planning.

LS/A 1, ELO 1, Description of Tactics and Options, continued	Use the following techniques: <ul style="list-style-type: none"> • Start with the scheme of maneuver, then examine how each BOS fits in or provides support. • Time-event charts can describe how the threat normally conducts an operation. • Marginal notations on the graphic template are an effective technique, especially when the notes are tagged to key events or positions on the template. • A BOS synchronization matrix depicts the threat's TTP in matrix form.
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Identification of Type HVTs	<p>Assets that the threat commander requires for the successful completion of the mission depicted and described on the template are HVTs. You identify HVTs from an evaluation of the data base, the doctrinal template, its supporting narrative, and the use of tactical judgement.</p> <p>After identifying the set of HVTs, you rank order them with regard to their relative worth to the threat's operation and record them as part of the threat model. An HVT's value usually varies over the course of an operation. You identify any changes in value by phase of the operation and make the necessary annotations.</p> <p>As you identify key assets, group them into one of the 13 categories used to develop target sets. These 13 categories are:</p> <ul style="list-style-type: none"> • Command , control, and communications (C³). • Fire support. • Maneuver. • Air defense • Engineer. • Reconnaissance, intelligence, surveillance, and target acquisition (RISTA). • NBC (includes support elements and weapons). • Radio electronic combat (REC) or EW assets. • Bulk fuels (storage and refueling assets). • Ammunition storage sites and distribution points. • Maintenance and repair units (include collection points and mobile repair facilities). • Lift. • Line of communication (LOC) (roads, bridges, railheads, transloading facilities, airfields, choke points, and others).
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LS/A 1, ELO 1, You should use all available intelligence sources to update and refine threat models. The Order of Battle (OB) files are the most useful source. OB files contain the details which allow you to reach conclusions about the threat's operations, capabilities, and weaknesses. The nine OB factors that structure the OB files and the evaluated information for each factor are:

- Composition.
- Disposition.
- Strength.
- Tactics.
- Training.
- Logistics.
- Effectiveness.
- Electronic technical data.
- Miscellaneous.

Identify Threat The final step in creating the threat model is to identify threat capabilities. Threat capabilities are the broad COAs and supporting operations which the threat can take to influence the accomplishment of the friendly mission. They take the form of statements such as:

- The enemy has the capability to attack with up to 8 divisions supported by 170 daily sorties of fixed-wing aircraft.
- The enemy can establish a prepared defense by 14 May.
- The enemy has the capability to insert up to two battalions of infantry in a single lift operation.

There are generally four tactical COAs open to military forces in conventional operations:

- Attack.
- Defend.
- Reinforce.
- Conduct a retrograde.

You can divide each of these broad COAs into a variety of more specific COAs. For example, an attack may be an envelopment, a penetration, or other variation of attack. A retrograde movement may be a delaying action, a withdrawal, or a retirement.

LS/A 1, ELO 1,
Identify Threat
Capabilities,
continued

Other capabilities include support to broad COAs or specific types of operations. Examples of these types of capabilities are:

- Use of NBC weapons.
- Use of supporting air assets.
- Intelligence collection.
- Electronic warfare (EW).
- Engineering operations.
- Air assault or airborne operations.
- Amphibious assaults.
- Riverine operations.
- Psychological operations (PSYOP).
- Deception operations.

At other levels of war and during other operations you will consider other types of operations and broad COAs. In any case, start with the full set of threat models and consider the threat's ability to conduct each operation based on the current situation.

IPB Step 4,
Determine
Threat Courses
of Action

Step 4 of the IPB process is to determine threat courses of action. You identify and develop likely threat COAs that will influence accomplishment of the friendly mission. Step 4 of IPB includes the following steps:

- Identify the threat's likely objectives and desired end state.
- Identify the full set of COAs available to the threat.
- Evaluate and prioritize each COA.
- Develop each COA in the amount of detail that time allows.
- Identify initial collection requirements.

Identify
Threat's likely
Objectives

Start with the threat command at least one level above your own and identify likely objectives and the desired end state. As you identify the likely objectives at each level of command, repeat the process for the next subordinate level, working down to two levels below your own command. Ensure that each level's objective will accomplish the likely objectives and desired end state of its parent commands.

Some additional considerations when identifying the threat's likely objective are:

- The situation may require you to start at more than one level above your command.

LS/A 1, ELO 1,
Identify
Threat's likely
Objectives,
continued

- Only in rare cases will you have the intelligence you need to state the threat's likely objectives as facts. You will usually state and identify them as assumptions.
- Consider political and economic objectives as well as the conventional objectives of terrain or friendly forces.
- Terrain related objectives (intermediate and final) often focus on key terrain features. Force related objectives usually focus on reserve forces.
- Even during defensive operations, the threat will have objectives, such as retain control of a piece of terrain, defeat or delay a friendly force, or take prisoners. You must also identify likely counterattack objectives, such as terrain features or friendly reserve forces.
- It is possible that the threat's intent and objectives may not interfere with the accomplishment of the friendly mission. This is more likely during other operations and not during wartime operations.

Identify the
Full Set of
COAs

To ensure that you consider the full set of COAs available to the threat, you must at least consider:

- The COAs the threat's doctrine believes appropriate to the current situation and the likely objectives you have identified.
- The threat COAs that could significantly influence your command's mission, including any direct or "wildcard" COAs that the threat is capable of executing.
- The threat COAs indicated by recent activities and events.

Criteria for
COAs

This table identifies the five criteria that each refined threat COA should meet:

Criterion	Remarks
Suitability	If the COA is successfully executed, will it accomplish the threat's objective?
Feasibility	Are the time and space required to execute the COA available? Does the threat have the physical means required to make it a success?
Acceptability	Will threat forces accept the amount of risk involved? Can they afford to expend resources for uncertain chance at success?
Uniqueness	Is the threat COA significantly different from the others, or is it a variation? Consider: <ul style="list-style-type: none"> • Its effect on the friendly mission. • Use of reserves or second echelon.

LS/A 1, ELO 1,
Criteria for
COAs,
continued

Uniqueness, continued	<ul style="list-style-type: none"> • Location of main effort. • Scheme of maneuver. • Task organization.
Consistency with Doctrine	Is the threat COA consistent with the threat's doctrine? Do not, however, overlook threat efforts to achieve surprise by deviating from known doctrine.

Evaluate and
Prioritize each
COA

The resulting set of COAs depicts the full set of options available to the threat. Remember that the threat COAs you identify are assumptions about the threat, not facts. Because of this, you cannot predict with complete accuracy which of the COAs the threat will employ. However, the commander and his staff still need to develop a plan optimized to one of the COAs, while still allowing for contingency options if the threat chooses another COA. Therefore, you must evaluate and prioritize each COA according to how likely you estimate it is that the threat will adopt that option.

To prioritize each COA:

- Analyze each COA to identify its strengths and weaknesses, centers of gravity, and decisive points.
- Evaluate how well each COA meets the criteria of suitability, feasibility, acceptability, uniqueness, and consistency with doctrine.
- Evaluate how well each COA takes advantage of the battlefield environment. How does the battlefield encourage or discourage selection of each COA?
- Compare each COA to the others and determine if the threat is more likely to prefer one over the others.
- Consider the possibility that the threat may choose the second or third "best" COA while attempting a deception operating portraying acceptance of the "best" COA.
- Analyze the threat's recent activity to determine if there are indications that the threat is already adopting one COA. Does his current disposition favor one COA over another?

Use judgement to rank the threat's COAs in their likely order of adoption. Modify the list as needed to account for changes in the current situation.

Develop each
COA

Once you have identified the complete set of threat COAs, develop each COA into as much detail as the situation requires and time allows. Base the order in which you develop each COA on the probability of its adoption and the commander's guidance.

LS/A 1, ELO 1, To ensure completeness, each COA must answer the five questions shown on this table:
 Develop each
 COA, continued

Question	Explanation
What?	Type of operation, such as attack, defend, reinforce.
When?	The time the action will begin. State this in terms of the earliest time that the threat can adopt the COA.
Where?	The sectors, zones, axis of attack, avenues of approach, and objectives that make up the COA.
How?	The method by which the threat will employ his assets, such as dispositions, location of main effort, the scheme of maneuver, and how it will be supported.
Why?	The objective or end state the threat intends to accomplish.

Each developed threat COA has three parts:

- A situation template.
- A description of the COA and options.
- A listing of HVTs.

Situation templates are graphic depictions of expected threat dispositions for a particular COA. They usually depict the most critical point in the operation as agreed upon by the S-2 and S-3. You use situation templates to support staff wargaming and develop event templates.

The description of the COAs and options describe the activities of the force depicted on the situation template. It can range from a narrative description to a detailed “synchronization matrix” depicting the activities of each unit and BOS in detail. It should address the earliest time the COA can be executed, timelines and phases associated with the COA, and decisions the threat commander will make during execution of the COA and after. You use the COA description to support staff wargaming and to deploy the event template and supporting indicators.

As you prepare and mentally wargame the situation template, note how and where each of the BOSs provides critical support to the COA. This leads to identification of HVTs. Use the list of HVTs in the threat model as a guide, but do not limit yourself by it. Determine the effects on the COA of losing each HVT and identify likely threat responses. The relative worth of each HVT target will vary with the specific situation under consideration and over the course of the COA’s conduct. Identify the times or phases in the COA when the target is most valuable to the threat commander and make the appropriate notations on the list of HVTs.

LS/A 1, ELO 1, After identifying the set of potential threat COAs the initial challenge is to determine which one he will actually adopt. Identifying initial collection requirements involves predicting specific areas and activities, which, when observed, will reveal which COAs the threat has chosen. The areas where you expect key events are named areas of interest (NAIs). The activities which reveal the selected COAs are indicators.

Initial
Collection
Requirements

The difference between the NAIs, indicators, and time phase lines (TPLs) associated with each COA form the basis of the event template. The event template is a guide for collection and reconnaissance and surveillance (R&S) planning. It depicts where to collect the information that will indicate which COA the threat has adopted.

The event matrix supports the event template by providing details on the type of activity expected in each NAI, the times expected to be active, and its relationship to other events on the battlefield. Its primary use is in planning intelligence collection; however, it serves as an aid to situation development as well.

The event template and matrix, once completed, form the basis for planning collection strategies, synchronizing intelligence with friendly operations, and preparing the collection plan. In some cases, you might disseminate the event template in the form of a collection graphic to support intelligence planning and collection by other units.

LS/A 2, ELO 1, Click here to go to [Lesson Exercise 1](#).
Lesson
Exercise 1

ELO 2

Action:	Recognize how IPB supports the command estimate process.
Conditions:	In a self-study environment using the material provided in this lesson.
Standard:	In accordance with FM 34-130.

LS/A 1, ELO 2, Commanders and staff use the military decision-making process to select a COA and develop an operations plan (OPLAN), operations order (OPORD), or fragmentary order (FRAGO) that implements it. The results and products of the IPB process, conveyed in the intelligence estimate, are essential elements of the military decision-making process.

IPB and the
Military
Decision-
Making Process

LS/A 1, ELO 2, The military decision-making process is dynamic and continuous. The staff continues to estimate the situation as the operation progresses, adapting the command's COA to unforeseen changes in the situation. The IPB process which supports the military decision-making process must also remain dynamic, constantly integrating new information into the initial set of facts and assumptions.

Five Steps The military decision-making process consists of the following five steps:

- Mission analysis.
- Develop COAs.
- Analyze and compare COAs.
- Decision.
- Execution.

Mission Analysis The IPB process supports the commander's mission analysis in the following ways:

- The description of the battlefield's effect identifies constraints on potential friendly COAs and identifies opportunities the battlefield presents.
- Threat evaluation allows the commander and staff to make assumptions about the relative capabilities of the friendly command.
- The determination of threat COAs in step 4 of IPB provides a basis for formulating potential friendly COAs.
- IPB identifies critical gaps in the commander's knowledge of the battlefield or threat situation.

Develop COAs The staff develops friendly COAs based on the facts and assumptions identified during IPB and mission analysis. IPB results are useful in determining the validity of friendly COAs against each threat COA based on what the battlefield environment will allow or limit.

Analyze and Compare COAs During the wargaming sessions the staff "fights" the set of threat COAs, developed in step 4 of the IPB process, against each potential friendly COA. Targeting conferences follow or accompany the wargaming sessions to refine selected HVTs from the enemy COA models into high-payoff targets (HPTs) that support the friendly COA.

LS/A 1, ELO 2, Analyze and Compare COAs, continued

Based on the results of wargaming, for each potential friendly COA, the staff:

- Constructs a decision support template (DST) and its associated synchronization matrix.
- Identifies supporting intelligence requirements.
- Refines the enemy COA models and events templates and matrices, focusing on the intelligence required to execute the friendly COA.
- Arranges the threat COAs in order of probability of adoption.
- Identifies the most dangerous threat COA.
- Refines the friendly COA.
- Determines the probability of success of the friendly COA.

The results of wargaming each potential friendly COA against the set of enemy COA models allows the staff to make a recommendation on the best friendly COA.

Decision

Following the staff recommendations of friendly COAs, the commander decides upon a COA and issues implementing orders. The commander also approves the list of intelligence requirements associated with the COA and identifies the most important as priority intelligence requirements (PIR).

Execution

During the execution of the operation, intelligence information will flow throughout the chain of command. As intelligence confirms or denies planning assumptions, continuous IPB reevaluates the situation, identifies new PIR, and provides input to the continuous estimate process.

LS/A 2, ELO 2, Click here to go to [Lesson Exercise 2](#).

Lesson

Exercise 2

ELO 3

Action:	Describe how IPB supports the Intelligence Estimate.
Conditions:	In a self-study environment using the materials provided in this lesson.
Standard:	In accordance with FM 34-130.

LS/A 1, ELO 3, In order to facilitate staff planning, the S-2 prepares the intelligence estimate before other staff members complete their own estimates. The intelligence estimate forms the basis for the facts and assumptions of the decision-making process, driving the other staff estimates and the remaining steps in the decision making process. The products of IPB are the basis of the intelligence estimate. In fact, if the S-2 lacks the time required to prepare a written estimate, he can usually substitute graphics that depict the results of his IPB evaluations and analysis.

Intelligence
Estimate
Format

The intelligence estimate consists of the following five paragraphs:

- Paragraph 1, **Mission**, of the intelligence estimate restates the command's mission.
 - Paragraph 2, **Area of Operations**, which derives from step 2 of the IPB process, describes the battlefield's effects. The most important subparagraphs of paragraph 2 are the "effects on enemy COAs" and "effects on own COAs." These sections describe the battlefield's impact on operations.
 - Paragraph 3, **Enemy Situation**, derives from step 3 of the IPB process, (evaluate the threat). This is primarily a discussion of what is known about the threat (facts) and the results of analysis of those facts (assumptions).
 - Paragraph 4, **Enemy Capabilities**, derives from step 4 of the IPB process, (determine threat COAs). This is a listing and discussion of the COAs available to the threat. These COAs should exactly correspond with the enemy COA models developed in step 4 of the IPB process.
 - Paragraph 5, **Conclusions**, derives from the evaluations made during the IPB process. Here you summarize the effects of the battlefield environment on friendly and enemy COAs, list the set of probable threat COAs (in order of probability of adoption), and list the threat's exploitable vulnerabilities.
-

LS/A 2, ELO 3, Click here to go to [Lesson Exercise 3](#).
Lesson
Exercise 3

ELO 4

Action:	Describe how IPB supports the Targeting Effort.
Conditions:	In a self-study environment using the material provide in this lesson.
Standard:	In accordance with FM 34-130

LS/A 1, ELO 4, The targeting process results in targeting guidance that supports the command's COA. This guidance generates additional intelligence requirements in support of each potential friendly COA the targeting process supports. IPB directly supports the targeting functions of:

- Decide.
 - Detect.
 - Deliver.
-

Decide As part of COA analysis and comparison, or immediately after, the staff generally starts the targeting process with a targeting conference. Using the results of wargaming and IPB as a guide, they decide:

- What targets to acquire and attack (HPTs).
- What target selection standards (accuracy and timeliness) to use.
- Where and when to find these targets (named area of interest [NAI] and target area of interest [TAI]).
- How to attack the targets, based on the commander's targeting concept.
- Whether there is a requirement for battle damage assessment (BDA) on each target to support the commander's intent or the commander's COA, and how detailed it must be.

The targeting team further refines the event templates and matrices to include the information required to support targeting.

Detect During this step the command's collection manager develops collection strategies that will satisfy information requirements which support the targeting process. He plans for synchronized collection, focusing on the proper HPT at each phase in the command's COA. If there is a requirement for BDA to support the command's COA, the collection manager plans collection to satisfy that set of requirements as well. Whenever possible, he plans and arranges direct dissemination of targeting intelligence from the collector to the targeting cell or appropriate fire support element (FSE).

Deliver The deliver portion of the targeting process executes the target attack guidance and supports the commander's battle plan upon identification and location of HVTs. IPB structures the analysis that enables the S-2 to advise the commander and fire support officer (FSO) on the execution of the fire support plan.

LS/A 2, ELO 4, Click here to go to [Lesson Exercise 4](#).
 Lesson
 Exercise 4

ELO 5

Action:	Describe how IPB supports Planning and Intelligence Synchronization.
Conditions:	In a self-study environment using the materials provided in this lesson.
Standard:	In accordance with FM 34-130

LS/A 1, ELO 5, Collection management synchronizes the activities of organizations and systems to provide intelligence the commander needs to accomplish his COA and targeting efforts. IPB helps the commander identify his intelligence requirements and provides the focus and direction needed to satisfy them.

The commander bases his initial intelligence requirements on the critical gaps identified during IPB in the **mission analysis** step of the decision making process. Refined and updated requirements result from staff wargaming and selection of a particular friendly COA.

During staff wargaming, the S-2 uses the enemy COA models developed in step 4 of the IPB process to portray the enemy. The remainder of the staff “fights” each potential friendly COA and notes where and when in its execution decisions are required to make the COA successful. They also determine the specific intelligence required to support each decision and record it onto the list of proposed intelligence requirements. When the commander selects a particular friendly COA, he also approves and prioritizes the supporting intelligence requirements.

Intelligence
 Collection
 Tools

The event template and the event matrix provide details that are the basis of an effective intelligence collection plan. IPB products also contribute to the development of staff synchronization tools such as the decision support template (DST) and the BOS synchronization matrix. The collection manager uses these additional tools to ensure that the collection plan stays synchronized with the command’s operations. The resulting intelligence synchronization matrix (ISM) depicts the collection strategies which support the command’s COA.

LS/A 1, ELO 5, Intelligence Synchronization	Intelligence synchronization is more than simply ensuring that collection systems of various sorts are operating 24 hours a day. The S-2 must direct the intelligence system, receive the information it produces, process it and then produce and disseminate intelligence of value to the commander in time to support his decisions. The coordination of this entire cycle is intelligence synchronization.
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LS/A 2, ELO 5, Lesson Exercise 5	Click here to go to Lesson Exercise 5 .
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SECTION IV SUMMARY

Review/ Summarize Lesson	The material in this lesson covered the Intelligence Preparation of the Battlefield and the four steps of the IPB process, how IPB supports the command estimate, the intelligence estimate, the targeting effort, and how IPB supports planning and intelligence synchronization.
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Check on Learning	The five lesson exercises that you completed during this lesson serve as the check on learning for the TLO.
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Transition to next Lesson	Now that you studied the IPB process, the next step in the intelligence cycle is the collection of intelligence, covered in lesson W117, Intelligence Collection.
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SECTION V STUDENT EVALUATION

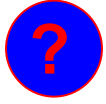
Testing Requirements	At the end of the Intelligence block of instruction in Phase II, you will take a written, objective examination. The examination will test the learning objectives from this and several other lessons. You must correctly answer at least 70 percent of the questions to receive a “GO.” A “GO” is a requirement for graduation.
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Lesson Exercise 1: Instructions

The following fourteen questions will test your knowledge of the materials covered in ELO 1. There is only one correct answer for each item. When you answer each question, you will be given immediate feedback. If you answer any question incorrectly, study that part of the ELO again.





What is step 1 of the IPB process?

- A. Describe the battlefield's effects.
- B. Define the battlefield environment.
- C. Determines threat capabilities.
- D. Determines threat's likely objectives.

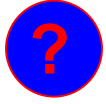




The geographical area(s) assigned to a commander where he has the responsibility and authority to conduct military operations is the _____

- A. Named Area of Interest.
- B. Area of Interest.
- C. Area of Operations.
- D. Both the Area of Operations and the Area of Interest.

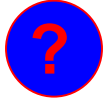




Who or what specifies the boundaries in the Area of Operations?

- A. By OPORD or OPLAN.
- B. By the commander.
- C. By the S-3.
- D. By the S-2.

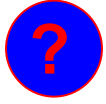




In which step of the IPB process are OCOKA factors analyzed?

- A. Define the battlefield's environment.
- B. Describe the battlefield's effects.
- C. Evaluate the threat.
- D. Determine threat capabilities.

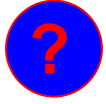




How is terrain classified as RESTRICTED, depicted on an overlay?

- A. Cross-hatched diagonal lines.
- B. Letter “R” inside encircled area.
- C. Diagonal lines.
- D. Shading.

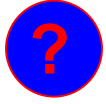




What is terrain where units may have difficulty moving at preferred speeds or in combat formations classified as?

- A. UNRESTRICTED terrain.
- B. RESTRICTED terrain.
- C. SEVERLY RESTRICTED terrain.
- D. Key Terrain.

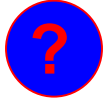




In which step of the IPB process do you identify the threat force capabilities?

- A. Define the battlefield environment.
- B. Describe the battlefield's effects.
- C. Evaluate the threat.
- D. Determine threat capabilities.

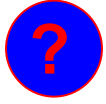




You would expect to find information on enemy organization for combat, frontages, depths, boundaries, and engagement areas in which of the following?

- A. Event template.
- B. Situation template.
- C. Decision support template.
- D. Doctrinal template.

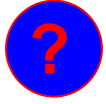




The three parts of a threat model are:

- A. Doctrinal template, description of preferred tactics and options, identification of type HVTs.
- B. Doctrinal template, situation template, event template.
- C. Situation template, OB file, description of preferred tactics and options.
- D. Event template, identification of type HVTs, OB file.

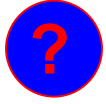




What is step 4 of the IPB process?

- A. Define the battlefield's environment.
- B. Describe the battlefield's effects.
- C. Evaluate the threat.
- D. Determine threat courses of action.

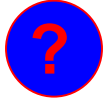




Each developed COA has three parts: a situation template, a listing of HVTs, and a(n) _____

- A. Doctrinal template.
- B. Event template.
- C. Description of the COA and options.
- D. Description of preferred tactics and options.

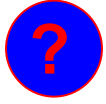




To support staff wargaming and develop event templates, you use the

- A. Doctrinal template.
- B. Situation template.
- C. Event template.
- D. Threat model.

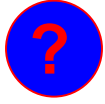




The _____ provides the type of activity expected in each NAI.

- A. Event template
- B. Event matrix
- C. Situation matrix
- D. Situation template





The _____ and _____, once completed, form the basis for planning collection strategies, synchronizing intelligence with friendly operations, and preparing the collection plan.

- A. Event template and situation matrix
- B. Situation template and situation matrix
- C. Event template and event matrix
- D. Situation template and event matrix



INCORRECT

The correct answer is B.

Define the battlefield environment. PTP, Page 6



CORRECT



INCORRECT

The correct answer is C.

Area of Operations. PTP, Page 6.



CORRECT



INCORRECT

The correct answer is A.

By OPORD or OPLAN. PTP, Page 6.



CORRECT



INCORRECT

The correct answer is B.

Describe the battlefield's effects. PTP, Page 8.



CORRECT



INCORRECT

The correct answer is C.

Diagonal lines. PTP, Page 10.



CORRECT



INCORRECT

The correct answer is B.

RESTRICTED terrain. PTP, Page 10.



CORRECT



INCORRECT

The correct answer is C.

Evaluate the threat. PTP, Page 12.



CORRECT



INCORRECT

The correct answer is D.

Doctrinal template. PTP, Page 13.



CORRECT



INCORRECT

The correct answer is A.

Doctrinal template, description of preferred tactics and options, identification of type HVTs. PTP, Page 13.



CORRECT



INCORRECT

The correct answer is D.

Determine threat courses of action. PTP, Page 16.



CORRECT



INCORRECT

The correct answer is C.

Each developed COA has three parts: a situation template, a listing of HVTs, and a description of the COA and options. PTP, Page 19.



CORRECT



INCORRECT

The correct answer is B.

To identify support staff wargaming and develop event templates, you use the situation template. PTP, Page 19.



CORRECT



INCORRECT

The correct answer is B.

The event matrix provides the type of activity expected in each NAI. PTP, Page 20.



CORRECT



INCORRECT

The correct answer is C.

The event template and event matrix, once completed, form the basis for planning collection strategies, synchronizing intelligence with friendly operations, and preparing the collection plan. PTP, Page 20.



CORRECT

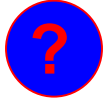




Lesson Exercise 2: Instructions

The following five questions will test your knowledge of the materials covered in ELO 2. There is only one correct answer for each item. When you answer each question, you will be given immediate feedback. If you answer any question incorrectly, study that part of the ELO again.

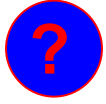




Commanders and staff use the decision-making process to select a(n) _____ and develop an OPLAN, OPORD, or FRAGO that implements it.

- A. CONPLAN
- B. IPB
- C. SOP
- D. COA

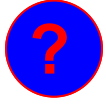




What is the first step in the decision-making process?

- A. Develop COAs.
- B. Mission analysis.
- C. Analyze and compare COAs.
- D. Decision.

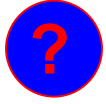




The description of the battlefield's effects (IPB step 2) supports which step of the decision-making process?

- A. Mission analysis.
- B. Develop COAs.
- C. Analyze and compare COAs.
- D. Decision.

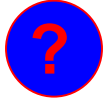




In which step of the decision-making process does the staff construct a DST and synchronization matrix?

- A. Mission analysis.
- B. Develop COAs.
- C. Analyze and compare COAs.
- D. Execute.





Who is responsible for identifying PIR?

- A. The G-2/S-2.
- B. The commander.
- C. The G-3/S-3.
- D. The collection manager.



INCORRECT

The correct answer is D.

Commanders and staff use the decision-making process to select a COA and develop an OPLAN, OPORD, or FRAGO that implements it. PTP, Page 20.



CORRECT



INCORRECT

The correct answer is B.

Mission analysis. PTP, Page 21.



CORRECT



INCORRECT

The correct answer is A.

Mission analysis. PTP, Page 21.



CORRECT



INCORRECT

The correct answer is C.

Analyze and compare COAs. PTP, Page 22.



CORRECT



INCORRECT

The correct answer is B.

The commander. PTP, Page 22.



CORRECT

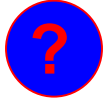




Lesson Exercise 3: Instructions

The following four questions will test your knowledge of the materials covered in ELO 3. There is only one correct answer for each item. When you answer each question, you will be given immediate feedback. If you answer any question incorrectly, study that part of the ELO again.

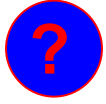




The first paragraph of the intelligence estimate restates which of the following?

- A. The enemy's capabilities.
- B. The mission.
- C. The enemy's strength.
- D. COAs available to the enemy.

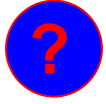




Which paragraph primarily discusses what is known about the threat (facts) and the results of analysis of those facts (assumptions)?

- A. Paragraph 2.
- B. Paragraph 3.
- C. Paragraph 4.
- D. Paragraph 5.

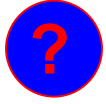




Paragraph 4 of the intelligence estimate includes a discussion of which of the following?

- A. Enemy peculiarities and weaknesses.
- B. Effects of enemy vulnerabilities that can be exploited.
- C. COAs available to the threat.
- D. Recent and present significant threat activities.





In what paragraph do you summarize the effects of the battlefield environment on friendly and enemy COAs?

- A. Paragraph 2.
- B. Paragraph 3.
- C. Paragraph 4.
- D. Paragraph 5.



INCORRECT

The correct answer is B.

The mission. PTP, Page 23.



CORRECT



INCORRECT

The correct answer is B.

Paragraph 3. PTP, Page 23.



CORRECT



INCORRECT

The correct answer is C.

COAs available to the threat. PTP, Page 23.



CORRECT



INCORRECT

The correct answer is D.

Paragraph 5. PTP, Page 23.



CORRECT

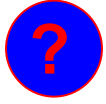




Lesson Exercise 4: Instructions

The following four questions will test your knowledge of the materials covered in ELO 4. There is only one correct answer for each item. When you answer each question, you will be given immediate feedback. If you answer any question incorrectly, study that part of the ELO again.

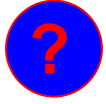




IPB directly supports the targeting functions of decide, detect, and _____

- A. Targets.
- B. Analysis.
- C. Deliver.
- D. COAs.

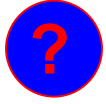




What does the staff generally use to start the targeting process?

- A. A targeting competition.
- B. A brainstorming session.
- C. A targeting conference.
- D. A staff meeting.

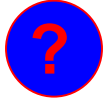




During which step does the command's collection manager develop collection strategies that will satisfy information requirements which support the targeting process?

- A. Decide.
- B. Analysis.
- C. Deliver.
- D. Detect.





What step of the targeting process executes the target attack guidance?

- A. Detect.
- B. Deliver.
- C. Analysis.
- D. Decide.



INCORRECT

The correct answer is C.

IPB directly supports the targeting functions of decide, detect, and deliver.
PTP, Page 24.



CORRECT



INCORRECT

The correct answer is C.

A targeting conference. PTP, Page 24.



CORRECT



INCORRECT

The correct answer is D.

Detect. PTP, Page 24.



CORRECT



INCORRECT

The correct answer is B.

Deliver. PTP, Page 24.



CORRECT

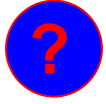




Lesson Exercise 5: Instructions

The following three questions will test your knowledge of the materials covered in ELO 5. There is only one correct answer for each item. When you answer each question, you will be given immediate feedback. If you answer any question incorrectly, study that part of the ELO again.

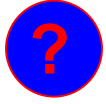




What synchronizes the activities of organizations and systems to provide intelligence the commander needs to accomplish his COA and targeting efforts?

- A. Analysis.
- B. Collection management.
- C. Event template.
- D. Decision support template.

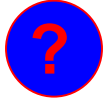




Which of the following intelligence tools provide the details that are the basis of an effective intelligence collection plan?

- A. Decision support template.
- B. Target guidance matrix.
- C. Situation template and matrix.
- D. Event template and matrix.





Which intelligence tool depicts the collection strategies which support the command's COA?

- A. Event matrix.
- B. BOS synchronization matrix.
- C. Decision support template.
- D. Intelligence synchronization matrix.



INCORRECT

The correct answer is B.

Collection management. PTP, Page 25.



CORRECT



INCORRECT

The correct answer is D.

Event template and matrix. PTP, Page 25.



CORRECT



INCORRECT

The correct answer is D

Intelligence synchronization matrix. PTP, Page 25.



CORRECT



